UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

FESTO CORPORATION, Plaintiff, v. SHOKETSU KINZOKU KOGYO KABUSHIKI CO., LTD. a/k/a SMC CORPORATION, and SMC PNEUMATICS, INC., Defendants.	)	CIVIL ACTION NO. 88-1814-PBS

ORDER

January 10, 2006

Saris, U.S.D.J.

Plaintiff Festo Corporation ("Festo") moves, pursuant to Fed. R. Civ. P. 59(e), to alter or amend this Court's June 2005 Memorandum & Order entering judgment for defendant SMC Corporation ("SMC") on plaintiff's claim of infringement of U.S. Patent No. 4,354,125 (filed May 28, 1980) ("the '125 Patent").

"Rule 59(e) allows a party to direct the district court's attention to newly discovered material evidence or a manifest error of law or fact . . . ." Aybar v. Crispin-Reyes, 118 F.3d 10, 16 (1st Cir. 1997) (quoting Moro v. Shell Oil Co., 91 F.3d 872, 876 (7th Cir. 1996)); see also Hayes v. Douglas Dynamics, Inc., 8 F.3d 88, 90 n.3 (1st Cir. 1993) ("Rule 59(e) motions are granted for reasons such as the commission by the trial court of a manifest error of law or fact, the discovery of new evidence,

or an intervening change in the law."). Festo claims various manifest errors of law and fact, which I address below. The Court assumes familiarity with its earlier opinion and incorporates it herein. See 2005 WL 1398528, 75 U.S.P.Q.2d 1830 (June 10, 2005).

1. The Sleeve

With respect to the amendment adding the limitation that the sleeve on the driven member be made of magnetizable material, Festo argues that the Court erroneously focused on whether shielding was needed due to the strength of the braking forces. Instead, Festo claims that the proper question is whether it was foreseeable that the SMC aluminum alloy sleeve would provide shielding of magnetic leaks by creating a magnetic circuit:

> In order to be equivalent to 'a sleeve made of a magnetizable material' the accused structure must perform the specified function of shielding magnetic fields regardless of their strength. For the equivalent to be foreseeable, one skilled in the art would have to foresee that the accused equivalent structure would shield. Even if the inventor may have thought he did not need a sleeve of magnetizable material because of low magnetic leakage fields, it does not follow that he, or one skilled in the art, could foresee that an aluminum sleeve was **equivalent** to a sleeve made of magnetizable material.

(Pl.'s Mem. in Supp. to Alter or Amend ("Festo Mem.") 5.)

While no one disputes that the use of an aluminum alloy sleeve for purposes of shielding magnetic fields was not known at the time of amendment, or that aluminum is a non-magnetizable material, the strength of the magnetic field in the design of the

Festo device at the time of amendment is relevant because the foreseeability analysis cannot be divorced from "the context of the invention." Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 344 F.3d 1359, 1371 (Fed. Cir. 2003) (en banc). The undisputed evidence indicates that the leakage field was very small due to the design of the Festo device itself. Thus, in the context of the very small leakage fields, the use of an aluminum alloy sleeve (an old technology) instead of a magnetizable one was foreseeable to a person of ordinary skill in the art at the time of the 1981 amendments.

2. Seals

Festo's second argument concerns the amendment adding the limitation of a pair of sealing rings at each end of the piston. Festo argues that SMC's asymmetrical three-ring structure was not the foreseeable equivalent of the four-ring combination in the Festo device. To recap, claim 1 defines a four-ring combination including a pair of guide rings and a pair of sealing rings on the piston to accomplish the functions of guiding, wiping impurities on the inside of the tube away from the piston magnets, and sealing. SMC's device employed only one two-way sealing ring at one end of the piston (instead of a sealing ring at each end). It also had a guide ring on each end.

Festo argues that the Court erroneously held that Stoll's earlier German patent is prior art in the field demonstrating that SMC's use of a single two-way sealing ring would have been

foreseeable. Festo correctly points out that the German patent was a large-gap device which had a sealing ring at each end of the piston, but no guide rings at either end of the piston.[1] Guide rings were not important in the German prior art patent, Festo explains, because there was no need to maintain a small gap between the inner and outer magnets. Festo then argues that the German patent teaches a symmetrical arrangement of sealing rings and does not render foreseeable to a skilled artisan the ability to guide, wipe, and seal a small-gap magnetically coupled rodless cylinder using the asymmetric three-ring combination in the SMC device.

While the German prior art did not have guide rings, significantly, it did disclose the use of a two-way sealing ring that sealed equally well from both sides. (Trial Tr. 21-22, Dec. 17, 2004.) Thus, the two-way sealing ring does not constitute later technology.

Festo criticizes the Court's conclusion of foreseeable equivalence by noting that the Supreme Court and the Federal Circuit incorrectly described the Festo sealing rings as having a "lip" on one side when the "'125 patent clearly establishes that there is no mention or teaching of 'one way' or 'two way' seals

[1] My earlier opinion, while citing the appropriate sections of the record, fails to explain explicitly and clearly that the German patent had two-way sealing rings at each end of the piston but no guide rings at all. (See Trial Tr. 50-58, Dec. 16, 2004; Def. Ex. 7.) This opinion provides clarification on the precise configuration of the German prior art.

and no mention of the seals having a 'lip' on one side." (Festo Mem. 9 n.5.) Regardless of the merits of this critique, the Federal Circuit has remanded the case for this Court to resolve the specific factual issue of "whether a person of ordinary skill in the art would have considered the accused two-way sealing ring to be an unforeseeable equivalent of the recited pair of sealing rings." Festo, 344 F.3d at 1371-72.

The question, then, is whether a person of ordinary skill in the art would have foreseen that one two-way sealing ring as used by SMC located at one end of the piston is the equivalent of two sealing rings, one located at each end of the piston, when taken in combination with the guide rings. Since the purpose of the sealing ring was largely to prevent impurities from penetrating the space between the piston and the cylinder by wiping and sealing (Trial Tr. 14, Dec. 17, 2004), the existence in the prior art of a two-way sealing ring, which "seals equally well from both sides" (Id. 21-22), is quite relevant to the foreseeability analysis because the guide rings also perform the wiping function (Id. 14). Dr. Wolf conceded at the jury trial and the remand trial that one sealing ring was "good enough" even though the device may become more vulnerable to dirt. (Id. 15-16.)

Festo's stronger argument involves the issue of torsional deformation. The '125 Patent provides:

> Preferably the wiping means of the driven assembly and the sealing means of the piston lie in the same plane transversal to the axis of the tubular part. The contact

> pressure of the wiping means and sealing means does not exert a torsional deforming moment on the tubular part, which should preferably have thin walls in order to ensure a small total air gap between the two magnet arrangements.

'125 Patent col.1, l.63 - col.2, l.2; see also id. col.4, ll.30-53. Festo argues that the tube will deform if a sealing ring is not used next to a guide ring. At the remand trial, Festo argued that developments in magnet technology enabled the use of a single sealing ring in the later-invented SMC device because stronger magnets permitted a thicker cylinder which did not require a second sealing ring to prevent torsional deforming moments. (Trial Tr. 34, Dec. 17, 2004.)

Festo criticizes this Court for finding that it failed to provide empirical evidence about the thinness of the tube and strength of the magnets in the Festo devices to prove that one two-way sealing ring at one end of the piston would not work, pointing out that these devices do not physically exist but are only embodiments disclosed in the patent. The short answer is that Festo could easily have measured the walls of the tubes in Festo's commercial product and the strength of the magnets. More importantly, this criticism misses the mark. Festo's primary failing was the lack of data comparing the strength of the magnets in the art in 1981 (the time of amendment) vis-à-vis the magnets in the SMC device. There were also no measurements of the thickness of the SMC cylinder and how that thickness correlated with the improved magnet strength.

Without supporting data, the Court has no way of gauging Dr. Wolf's expert opinion concerning the objective foreseeability of using one two-way sealing ring with two guide rings as an equivalent of the Festo combination to prevent torsional deformation in 1981. Festo produces only Dr. Wolf's *ipse dixit*, and he concedes he is not a magnetics expert. (Id. 40.) This conclusory testimony without more is not credible because Dr. Wolf said the opposite at the jury trial, and there is no empirical support for his about-face.

Thus, in the context of the invention, I find it was objectively foreseeable to one of ordinary skill in the art in 1981 to use one two-way sealing ring, which existed in the prior art, in combination with the guide rings as an equivalent of a sealing ring/guide ring combination at each end of the piston.

Accordingly, the Court's conclusion that Festo failed to rebut the presumption of surrender remains unchanged. Festo's motion (Docket No. 419) is **DENIED**.

S/PATTI B. SARIS
United States District Judge